From: IACAList on behalf of Andreas Olligschlaeger via IACAList
To: iacalist@listserve.com
Subject: Re: [IACA] Facial Recognition Software
Date: Thursday, May 3, 2018 12:37:24 PM
Attachments: maigfpcclhhablln.png
fdnmjnbpoeklgidp.png
ATT00001.txt

CAUTION: This email originated from outside the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe. Report suspicious emails to nospam@greensboro-nc.gov or click the **"Phishing Alert"** button.

Kim,

While what you're asking can definitely be accomplished, I'm not sure that a percentage match would help you much, I'm afraid. In facial recognition the "match" rate is really only a quasi probability based on similarities to various facial features and not a true percentage or probability in the statistical sense.

In my work I am constantly seeing face matches that have low match rates compared to other faces that have higher ones, but aren't a match. For example, a face that has a match rate of 0.95 often actually isn't a match, whereas a face that has a match rate of, say, 0.85 is. We currently have over 4 million faces indexed and I'm still amazed at how many doppelgangers are out there. Almost every week I run across a "match" where most people would swear this is the same person, but it actually isn't. For that reason we look at other, non facial features to confirm whether a face is indeed a match, such as tattoos, clothing, and - the most accurate of all - confirmation by people that know the person.

An example is below:

Original Image

Target Image
92.27%

This image has a match rate of 92.27%, but is not a correct match. The image below, as you can tell by the tattoos, is a correct match but only has a match rate of 86.72%. In fact, there are about 3 dozen non matching images in our database that have higher match rates than the image below.

Original Image

Target Image
86.72%

So for all intents and purposes the match rate can really only be used to create a photo lineup of potential matches, not an actual statistical representation of how close each potential match is.

Olli

On 5/3/2018 9:42 AM, Kim Poole via IACAList wrote:

> We are investigating a homicide and have a good video of the actual shooting. One suspect in the video has confessed and has been arrested. We believe we know who the second suspect is but would like more than a verbal confirmation. Does anyone know of any facial recognition software that can compare a booking photo to the video to give us a percentage match or of an agency/company that can perform this type of work?
>
> Thanks!!

Kim
CONFIDENTIAL - NOT FOR PUBLIC RELEASE - LAW ENFORCEMENT SENSITIVE
Kimberly **"Kim"** Poole, **Crime Analyst**
Investigative Services Unit
Indian River County Sheriff's Office
4055 41st Avenue
Vero Beach, Florida 32960
Office**: 772-978-6116**
Mobile: **772-633-2899**
Fax: **772-567-0582**
Schedule: M-F 8AM-5PM
kpoole@ircsheriff.org
President, Florida Crime and Intelligence Analyst Association
President@fciaa.org

INDIAN RIVER COUNTY
SHERIFF'S OFFICE
WWW.IRCSHERIFF.ORG

IMPORTANT WARNING: This message is intended for the use of the person or entity to whom it is addressed and it may contain information that is privileged and confidential, the disclosure of which is governed by applicable law. If the reader of this e-mail is not the intended recipient, or the employee or agent responsible to deliver it to the intended recipient, you are hereby notified that any dissemination, distribution or copying of this information is STRICTLY PROHIBITED. If you have received this e-mail by error, please notify us immediately and destroy the related message. Also, under Florida law, e-mails and written communications received or sent by the Indian River County Sheriff's Office are public records, including names, addresses and e-mail addresses. They are generally subject to view by anyone requesting disclosure and will be released in response to a public records request.

*** You are subscribed to IACAList as olli@trunorthsystems.com. If you wish to unsubscribe, or modify your preferences please visit https://mailman.listserve.com/listmanager/listinfo/iacalist ***

--
Andreas M. Olligschlaeger, Ph.D.
Research Scientist
Marinus Analytics, LLC
olli@trunorthsystems.com
724-775-8441